SILVER FERN CHEMICAL, INC.

Safety Data Sheet

Fernester TXIB

Version	Revision Date:	Date of last issue: 06/06/2018
2.0	09/13/2018	Date of first issue: 09/06/2016

SECTION 1. IDENTIFICATION

Product name : Fernester TXIB

Details of the supplier of the safety data sheet

Company name of distributor : Silver Fern Chemical, Inc.
121 W. De La Guerra Street, Suite B
Santa Barbara, CA 93101 USA

24 Hour Emergency Contact: **Infotrac 1-800-535-5053 (USA & Canada)**
Outside USA & Canada 1-352-323-3500

Recommended use of the chemical and restrictions on use

Recommended use : Additive
Plasticizer

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Reproductive toxicity : Category 2

GHS label elements :

Hazard pictograms

Signal Word : Warning

Hazard Statements : H361d Suspected of damaging the unborn child.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Pure substance

Substance name : 01315-00

CAS-No. : 6846-50-0

Ingredients

Chemical name	CAS-No.	Concentration (% w/w)
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	100

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Call a physician or poison control center immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.
Take off all contaminated clothing immediately.
Call a physician or poison control center immediately.

In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed : If accidentally swallowed obtain immediate medical attention.

Most important symptoms and effects, both acute and delayed : Suspected of damaging the unborn child.
toxic effects for reproduction

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)
Dry chemical
Water spray

Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire. Do NOT use water jet.
Specific hazards during fire fighting	:	None known.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	None known.
Special protective equipment for fire-fighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.
Environmental precautions	:	Avoid release to the environment.
Methods and materials for containment and cleaning up	:	Sweep up or vacuum up spillage and collect in suitable container for disposal. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	None known.
Advice on safe handling	:	Do not breathe vapors or spray mist. Do not get on skin or clothing. Do not swallow. Use only with adequate ventilation. Wash thoroughly after handling.
Conditions for safe storage	:	Keep tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels. Ensure adequate ventilation.

Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Hand protection		
Remarks	:	Wear suitable gloves.
Eye protection	:	Safety glasses
Protective measures	:	Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Ensure that eye flushing systems and safety showers are located close to the working place. Use personal protective equipment as required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	colorless
Odor	:	slight
Odor Threshold	:	not determined
pH	:	not determined
Melting point/freezing point	:	-94 °F / -70 °C
Boiling point/boiling range	:	538.7 °F / 281.5 °C
Flash point	:	277 °F / 136 °C (101.325 kPa) Method: Setaflash closed cup
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	748 °F / 398 °C Method: ASTM E659
Vapor pressure	:	< 1.5 Pa (77 °F / 25 °C)
Relative vapor density	:	9.9
Relative density	:	0.9435 (68 °F / 20 °C)

Solubility(ies)		
Water solubility	:	0.0009 - 0.013 g/l (77 °F / 25 °C)
Partition coefficient: n-octanol/water	:	log Pow: 4.04 - 4.91 (77 °F / 25 °C)
Autoignition temperature	:	not determined
Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	5.04 mPa.s (77 °F / 25 °C)
Viscosity, kinematic	:	5.3 mm2/s (77 °F / 25 °C)
Explosive properties	:	Not classified
Oxidizing properties	:	Not classified
Surface tension	:	27.8 mN/m, 72 °F / 22 °C
Molecular weight	:	286.4 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable None known.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	carbon dioxide Carbon monoxide Carbon dioxide (CO_2) Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Remarks: No data available

Remarks: None.

Acute inhalation toxicity : Remarks: No data available

Remarks: No significant adverse effects were reported

Acute dermal toxicity : Remarks: No data available

Remarks: No significant adverse effects were reported

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0.12 mg/l
Exposure time: 6 h

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks : No data available

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Species : Guinea pig
Exposure time : 24 h
Result : slight

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks : No data available

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Species : Rabbit
Result : none
Exposure time : 24 h

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Test Type : Skin Sensitization
Species : Guinea pig
Result : non-sensitizing

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Remarks : OSHA Not Listed.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Suspected of damaging the unborn child.

Product:

Effects on fertility : Remarks: No data available

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Effects on fetal development : Species: Rabbit
Application Route: Oral
Developmental Toxicity: NOAEL: 300 mg/kg body weight

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Aspiration toxicity

Not classified based on available information.

Product:

No data available

No aspiration toxicity classification

Further information

Product:

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	NOEC: (Fish): >= 6 mg/l Exposure time: 96 h Remarks: (limit of solubility in fresh water)
Toxicity to daphnia and other aquatic invertebrates	:	NOEC: (daphnid): >= 1.46 mg/l Exposure time: 48 h Remarks: (limit of solubility in fresh water)
Toxicity to algae	:	EC50 (Chlorella pyrenoidosa): > 7.49 mg/l Exposure time: 72 h Remarks: (limit of solubility in fresh water)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC50 (Daphnia): > 1.3 mg/l Exposure time: 21 d Remarks: (limit of solubility in fresh water) NOEC: (Daphnia): 0.7 mg/l Exposure time: 21 d

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Toxicity to fish	:	NOEC (Fish): >= 6 mg/l Exposure time: 96 h Remarks: (limit of solubility in fresh water)
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Persistence and degradability

Product:

Biodegradability	:	Biodegradation: 70.73 % Exposure time: 28 d Method: Ready Biodegradability: CO2 Evolution Test
ThOD	:	2.40 g/g

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Biodegradability	:	Biodegradation: 70.73 % Exposure time: 28 d Method: Ready Biodegradability: CO2 Evolution Test
ThOD	:	2.40 g/g

Bioaccumulative potential

Product:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 1.95 Species: Fish Bioconcentration factor (BCF): 183 - 194

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 1.95

Species: Fish
Bioconcentration factor (BCF): 183 - 194

Mobility in soil

Ingredients:

2,2,4-trimethyl-1,3-pentanediol diisobutyrate:

Distribution among environmental compartments : log Koc: 2.69 - 3.6
Method: QSAR model

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Product name : 2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE
Pollution category : Z
Ship type : 3

Domestic regulation

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Reproductive toxicity

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On the inventory, or in compliance with the inventory

TSCA list

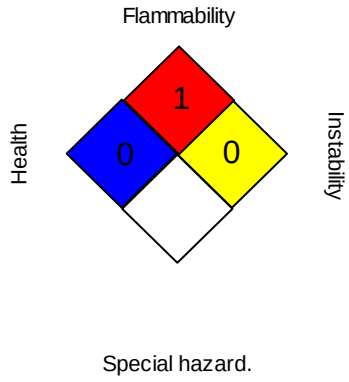
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

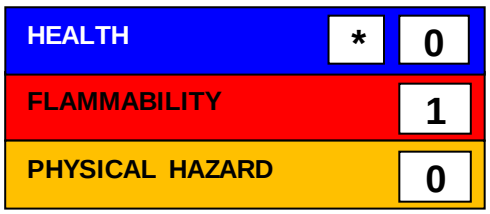
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG -

United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 09/13/2018

DISCLAIMER OF RESPONSIBILITY

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